

AMERICAN MUSEUM NOVITATES

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY
CITY OF NEW YORK · JANUARY 22, 1954 · NUMBER 1652

The Genus *Mixogaster* Macquart (Diptera, Syrphidae)

BY FRANK M. HULL¹

This genus contains a small number of well-marked flies of the neotropics and temperate North America, belonging to the subfamily Microdontinae. The limits of the genus have not always been well understood, and frequently petiolate species of *Microdon* have been placed here regardless of the presence or absence of the stump vein from the third vein into the first posterior cell. As far as I am aware, nothing is known about the life histories of any true species of *Mixogaster*.

I am indebted to Dr. C. H. Curran of the American Museum of Natural History and Dr. C. L. Fluke of the University of Wisconsin for the loan of material in this genus to assist me in these studies, and I have seen the types or paratypes of most of the species.

All the illustrations were made with the aid of the camera lucida with the exception of figures 13, 14, and 23; figure 14 was made with the aid of optical squares on graph paper.

CHARACTERISTICS OF THE GENUS *Mixogaster*

Mixogaster MACQUART, 1842, Diptera exotica, vol. 2, pt. 2, p. 14.

Elongate, brown, black, or reddish flies with yellow markings. The males are dichoptic, the eyes are bare, the face in profile is usually nearly straight, sometimes convex or barely concave. The antennae are elongate, the second segment being short. There is a dorsal arista. The flies are largely bare, the pile short and inconspicuous. Scutellum unspined. Abdomen elongate and quite pedicellate, and because of this and some peculiarities of markings usually present, these flies often have a marked wasp-like appearance. Legs not unlike those of *Microdon* and with similar cicatrices. The venation is microdontine, except that there is no posteriorly directed spur from the third longitudinal vein down into

¹University, Mississippi.

the first posterior cell. The last section of the fourth vein emits a quite characteristic upward stump or spur into the first posterior cell in contrast to most if not all other members of the Microdontinae. The subapical cross vein often has an inward- or an outward-turned spur or both or neither. The anterior margin of the wing is usually brown.

GENOTYPE: *Mixogaster conopsoides* Macquart (Brazil).

The following species, heretofore associated with *Mixogaster*, do not fulfill the requirements for the genus and therefore should be relegated to *Microdon* or other genera or subgenera of this subfamily. These are *aphritina* Thompson (Australia); *bellula* Williston (Mexico), placed by the author in *Pseudomicodon*; *cinctella* Sack (Philippines); and *claripennis* Hine (Guatemala), also in *Pseudomicodon*. The author considers that *delicatula* Hull and *flukei* Curran, from Cuba and Brazil, respectively, belong to the Oriental genus *Paramicodon*, which like *Mixogaster* lacks the spur from the third vein, but which also has very short antennae and peculiarities of the head and occiput and the abdomen slender with nearly parallel sides. In 1937 (Psyche, vol. 44, p. 24) the author erected the genus *Pseudomicodon*, with genotype *Microdon beebei* Curran, to hold those species like *bellula* and *claripennis* that resemble *Mixogaster* but have the prominent spur from the third vein. Several years ago, the author examined specimens of *cinctella* Sack, while visiting the Deutsches Entomologisches Institut, and found them very different from the other species here considered.

KEY TO THE SPECIES OF THE GENUS *Mixogaster*

1. Fourth longitudinal vein with an upward-directed spur near its junction with the lower marginal (postical) cross vein 2
Without such spur 18
2. Metanotum quite elongate, gently sloping and nearer the horizontal plane than the vertical plane, nearly three times as long as the length of the scutellum and itself longer than wide. Face yellow, with a small brown spot on a very low subantennal swelling and beneath this a thin, vertical brown streak. Mesonotum with a linear, golden, pilose vitta expanding before the scutellum; margins yellow (Brazil) . *sartocryptus*, new species
Not such flies, the metanotal slopes more abrupt; less than twice as long as the scutellum as a rule, and the mesonotum and face without such pattern 3
3. Face concave, a narrow oblique stripe on either side from eye margin to the base of the antennae. Mesonotum without medial yellow vitta on the ground color (Mexico) *dimidiata* Giglio-Tos
Face nearly straight vertically in profile, or convex, at most with a mere trace of subantennal concavity; mesonotum variable 4
4. Wings almost entirely brown, a yellow stripe along the basal and discal cells (Florida) *delongi* Johnson
Wings with only the anterior margin brown, or wholly clear 5

5. Third antennal segment quite elongate, two or more times as long as the first segment and slightly constricted in the middle. 6
 The third antennal segment shorter, usually but little or no longer than the first segment, more oval and pointed; never bulbous 8

6. Face in the middle portion straight or faintly concave in profile; third antennal segment widely orange basally; anterior wing margin conspicuously brown (Cuba) *cubensis* Curran
 Face slightly convex in profile; third antennal segment narrowly reddish; wing usually chiefly hyaline, the veins of the anterior half gray-margined or infuscated and the cells largely clear 7

7. First abdominal segment entirely yellow except a narrow, posterior margin, or in the male with a slender, transverse, black stripe, not reaching the sides; the lateral yellow thoracic stripe reaches the humeri; posterior femora brown in the middle (eastern United States) . *breviventris* Kahl
 First abdominal segment broadly blackish in the middle; yellow thoracic stripe ends at the suture anteriorly; posterior femora brown or yellow (northeastern United States) *johnsoni* Hull

8. Face yellow without a black or brown or red vertical stripe 9
 Face with one, sometimes more than one, brown or black or reddish vertical stripe, the lower portion of which may be evanescent, leaving dorsal spots 10

9. Mesonotum with a medial, yellow-brown, golden pilose vitta, expanding before the scutellum and almost obscured by pile, the pile appressed.
 Face quite convex, with three tiny brown spots arranged in a triangle below the antennae (Colombia) *pithecofascia* Hull
 Mesonotum without a yellow medial vitta (Mexico) . *mexicanus* Macquart

10. Face with three dark vittae, or traces of them, converging to one immediately beneath the antennae; subapical cross vein angulated with long outward spur 13
 Face with a single vitta, black, dark brown, or red; sometimes evanescent on the lower part (if lateral traces of brown are present try also 13) . . 11

11. Stigmal, marginal, and submarginal cell wholly brown; small flies; a large oval brown spot beneath the antennae and below it a linear evanescent brown streak; mesonotal disk wholly dark (Panama) . . . *rarior* Shannon
 These cells at least largely clear in the center, or if dark the size is much larger, the median facial vitta more or less complete 12

12. Mesonotum with a yellow medial stripe (Brazil) . . . *conopsoides* Macquart
 Mesonotum at most with a basal yellow spot before the scutellum and a middle band of yellow pile 17

13. Subapical cross vein with an inward- or outward-directed spur, or both . 14
 Subapical cross vein without any spur 16

14. Subapical cross vein with an inward-directed spur as well as an outward-directed spur 15
 Subapical cross vein with only a long, outward-directed spur; discal mesonotal pile reddish, facial stripes narrow and clearly marked (Brazil) *strictor* Hull

15. Discal mesonotal pile wholly jet-black; scutellum almost wholly brownish black (Brazil) *thecla*, new species
 Discal pile largely red or yellow; scutellum chiefly yellow, brown at the base (Brazil) *cicatrix*, new species

16. Subapical cross vein sigmoid; first and third antennal segments about three or more times as long as the second (Brazil) *polistes*, new species
 Subapical cross vein nearly straight; these antennal segments about two times as long as the second, the whole antennae shorter than any of the other species here treated (Brazil) *flukei*, new species

17. Metapleura yellow; marginal and submarginal cells uniformly brown (Brazil) *polistes*, new species
 Metapleura reddish brown, these cells largely clear towards their distal ends (Brazil) *currani*, new species

18. The wide, sublateral vittae of the thorax interrupted at the suture; transverse fascia across the vertex complete; dark border near apex of wing narrow (Brazil) *anthermus* Walker
 Thoracic vitta not interrupted; black of vertex (exclusive of the occiput), confined to a spot about the ocelli; dark border of wing apex filling out the submarginal cell, at least as far back as the confluence of the subapical cross vein (British Guiana) *orpheus* Hull

Mixogaster polistes, new species

Mesonotum almost wholly black, and black setate, the sides with traces of yellowish brown; face with three vittae, fused above. Subapical cross vein bent twice, without inner and other spur. Related to *conopsoides* Macquart. Length, 11 mm. exclusive of 2 mm. of antennae.

FEMALE: Upper occiput dark brown, except that behind the black, polished, longitudinal grooved ocellarium, there is a geminate, elongate, anteriorly attenuated yellowish spot; the vertex is thus left a rich, opaque, dark reddish brown, its anterior margin rounded; the anterior front ocellus is divided and touches the narrow, transverse, laterally expanded, light yellow fascia across the upper part of the front. The lower portion of the front is brown, very dark and black pilose; the upper yellow fascia is bare, the vertical pile is black, and the extreme lateral margins of the front are yellow and connect the yellow of the cheeks with that of the front. The brown area is margined with red. Face light yellow and golden pilose, with a particular tuft above the epistoma below. The face is trivittate, the diffuse brown vittae all confluent above and immediately below the antennae; the three vittae are widely joined, and the median vitta, which is much the longest, is margined with red below; cheeks brown. The antennae are uniformly very dark brown and elongate, the second and third segments about as long as the first; arista dark.

Mesonotum widely dark brown and appressed, black pilose except that there is a broad medial band of appressed golden pile throughout the middle. In front of the scutellum there is a rectangular yellow spot placed longitudinally. The humeri, a large spot medially and adjacent, a large, posterior, notopleural spot, and a continuing lateral yellow stripe

that encloses the whole of the postcalli are all light yellow. Laterally, however, this yellow stripe is narrowly dark brown. The scutellum is narrowly yellow at its base, more widely yellow at the apex, is golden pilose and otherwise brown. The squamae are dark brown; the border is still darker. The metanotum is well developed but not unusually prominent; it is brown, darker posteriorly. There is a yellow spot on the upper part of the mesopleura; the unchitinized area between it and the brown pteropleura is yellow; there is a large yellow spot on the upper part of sternopleura; upper part of hypopleura and greater part anteriorly of the metapleura all light yellow.

Legs light orange-brown, the hind femora darker brown, and their tibiae on the basal three-fifths almost whitish yellow with dark brown pile.

Anterior border of wings brown, the middles of the cells paler, the costal and stigmal cells also paler. Subapical cross vein with a strongly rounded bend outward near its middle; it turns back to meet the third vein at a right angle and is thus quite sigmoid, but it is without spur of any kind.

Abdomen petiolate, dark shining brown upon the first and second segments, the posterior border of the second yellowish brown and the apical portion of the segment almost black; its pile is appressed and black, but golden on the yellow border. The lateral margins are emarginate and yellowish brown. The lateral pile in the corners of the first segment is yellowish. The third to the fifth segments are expanded into a very wide and rather flattened, dark brown club. The posterior border of the third segment is yellow, with golden pile, of the fourth linearly yellow and of the fifth also. The pile of the third segment is extensively flat and black and short but it is almost wholly golden and flat on the fourth segment with but a few black hairs intermixed. On the fifth segment it is almost entirely black, with very few golden hairs.

HOLOTYPE: Female; Rio de Janeiro, Federal District, Brazil, April, 1938 (M. E. S. Bras); in the American Museum of Natural History.

Mixogaster currani, new species

Mesonotum wholly dark in the middle and dark pilose; antennae shorter than usual, especially the third segment; third segment twice as long as wide; subapical cross vein bent once, with inward spur. Related to *conopsoides* Macquart. Length, 13 mm. excluding 2 mm. of antennae.

MALE: Occiput dark brownish black, obscurely yellowish above, behind the ocelli; the ocellarium is polished, dark brown. The vertical pile is sparse, short, and brown, and the upper part of the front yellowish

on either side and bare. The greater part of the front below is shining black with sparse black pile above. Face yellow with a single wide, dark brown vitta that becomes gradually attenuated towards the lower portion of the face. The face is practically straight in outline, the cheeks are dark brown, and the facial pile is golden but sparse, the lateral yellow stripes of the face meeting below the antennae. The antennae are elongate, but shorter than usual, the second and especially the third segment is particularly short, the length of the third segment barely more than twice its middle width, the first two segments black and black pilose, the third dark brown with a quite short, basally thickened, yellow arista.

Mesonotum very dark, feebly shining brown, thickly appressed, brownish black setate. The humeri, a complete lateral stripe, the post-calli, the apical third of the scutellum excluding its basal corners, a wide, posterior stripe on the mesopleura, and a large spot on the upper part of the sternopleura are all light yellow. The metanotum is well developed, but abruptly almost vertical; it is slightly convex and black.

Legs light yellowish brown; the apices of the anterior femora are barely darker, the hind femora are considerably darker, especially upon the base and almost black ventrally on the base. The tibiae are more yellowish on the basal half.

Anterior margin of wings almost uniformly dark brown, the costal cell a little paler, the subapical cross vein slightly and rather sharply bent outward at the middle. On one wing there is a trace of median spur at the bend of the cross vein.

Abdomen quite narrowly petiolate, the first segment red, the second brownish red in the middle; it is widely translucent yellowish along the sides and subcylindrical portion, the yellow-colored area attenuated but reaching almost to the posterior corners. The apex of the segment is narrowly margined with yellow. Laterally the third segment is quite linearly margined with yellow posteriorly, and the fourth segment is similarly but completely margined at its apex. The third and fourth segments form a very convex, subcylindrical club but with nearly parallel sides. The pile of the abdomen is flat, appressed, chiefly black upon the second and third segments with much reddish pile laterally and basally upon the fourth segment. Its posterior and medial pile is black.

HOLOTYPE: Male; Nova Teutonia, Brazil (Fritz Plaumann); in the American Museum of Natural History.

Mixogaster thecla, new species

Mesonotum dark centrally, but with medial stripe of golden pile and

with yellow prescutellar spot and sides; humeri and interhumeral spot of yellow; abdomen quite wide apically; subapical cross vein sigmoid without sharp bend or spurs. Related to *conopsoides* Macquart. Length, 14 mm.

FEMALE: Vertex and front dull, brownish black, the ocellarium elongate, polished black, without groove, and bare. There is abundant black pile on either side behind and upon the occiput; the upper margin of the front is dark reddish brown, narrow, and bare; the greater portion of the front is rugose and appressed, black pilose and dark brownish black in color, bare immediately in front of the antennae, which are missing. Face yellowish brown, trivittate, the three vittae are largely confluent on the upper two-thirds, and the outer vittae are longer and are continuous with the brown of the cheeks. This leaves the eye margin narrowly yellowish, and its yellow is narrowly produced diagonally to reach the antennal base. Pile of face sparse, quite long, golden, with a few black hairs on either side of the bare middle.

Thorax very dark sepia-brown, almost a black, and densely, short, appressed setate. There is a small, obscure stripe over the wing; the posterior part of the postcalli and the humeri at least are laterally obscurely yellowish. The pleura are dark brown, and yellowish across the middle of the sternopleura above, anteriorly upon the hypopleura, and diffusely anteriorly upon the metapleura. The metanotum is dark brown, moderately developed. The scutellum shining dark brown, polished and bare upon the posterior half and obscurely yellow narrowly along the deeply creased base.

Anterior four legs are light yellowish brown, the basal half of their tibiae still paler, and a ventral, subapical, dark brown spot on the anterior tibiae. The hind femora are darker, black on their ventral surface, their tibiae and tarsi light brown, the former yellow basally. Pile of legs dark brown to almost black.

Anterior margin of wings brown, including the costal cell, except that its middle and the middle of the marginal cell basally and apically, and the submarginal cell apically, are more hyaline. The subapical cross vein is strongly and sharply bent outward near its middle and sharply bent back to meet the third vein almost at a right angle. Each bend of the cross vein has a spur vein, the second and more distal spur is directed outward towards the apex of the wing.

Abdomen moderately petiolate, dark sepia-brown, lighter brown at the junction of the first and second segments, linearly yellow on the posterior margins of the second and third segments, and still more so on the fourth

segment. The pile of the abdomen is entirely appressed, black setate except for a few golden hairs on the yellow of the second segment and a few erect, golden hairs laterally on the first segment.

HOLOTYPE: Female; Rio de Janeiro, Federal District, Brazil, September, 1938; in the American Museum of Natural History.

Mixogaster sartocryptus, new species

Characterized by the very long, nearly horizontal metanotum, the four yellowish stripes on the pleura, and the pair of fused yellowish spots, diagonal, upon the second abdominal segment. Mesonotum trivittate, including the lateral margins. Face yellow, univittate; legs chiefly pale yellow and largely yellow pilose. Belongs to the *conopsoides* group. Length, 14.5 mm.; antennae 3 mm.

FEMALE: Occiput, except a dark brown extension from each eye corner, orange. The front is dull brown, black around the ocelli, and this brown color extends around and just makes contact with the upper eye angle and divides the orange of the occiput. The occiput is thus left with an orange rectangle above. The pile of the vertex is black; of the occiput, yellowish. The front is orange, with a large, dark, brownish black semi-circle enclosing the base of the antennae. The face and cheeks are rich bright yellow with a prominent, oval, pointed, vertical, blackish spot that is rather small and lies a short distance below the antennae and is situated upon a tiny convexity. It is almost continuous with a narrow brown streak down the middle of the face. The face is nearly straight in profile. Pile of face pale, of the front black. The antennae are elongate, the first two segments dark brown, the third segment rather thickened and medium brown. The arista is pale yellow; the second and third segments of the antennae are barely as long as the first.

Mesonotum dull brown upon the disc; sides, postcalli, humeri, and a large, transverse spot between the humeri and adjacent to it, and also a prominent, acute wedge the base of which lies in front of the scutellum are all light yellow. The extreme narrow margin of the mesonotum lateral to the yellow is brownish. There is a large brown spot below on the polished, bare, yellow mesopleura; it is narrowly separated from a similar brown spot on the lower part of pteropleura which is continued as a narrow stripe posteriorly bordering the sternopleura. The medial half of the sternopleura is also brown; the anteroventral margin of the metapleura and the posterior half of the hypopleura are brown against the beautiful pale yellow background. The scutellum is short, yellow on the basal third and the apical third, and broadly brown across the middle,

with golden pile but no pile apically. The metanotum is exceptionally long, with a very low slope; it is longer than wide, with an arched, basal, brown fascia, and the posterior half or more is solid brown and linearly connected in the middle with the anterior fascia. The metanotum slopes downward at the same angle as the brown stripes on the pleura and there is an additional broad, brown, shallow depression running from the front of the halteres to the pale brown squamae. Thus there are four diagonal brown stripes on the thorax. Continuous with the median yellow wedge of the mesonotum there is a narrow longitudinal stripe of golden pile against the black background of the mesonotum, and the transverse suture is also narrowly golden pilose.

Legs almost wholly rich deep yellow. There is a longitudinal, brown stripe on the inside and again on the ventral surface of the hind femora and a shorter, similar stripe on the inside of the apex of their tibiae. Their tarsi are narrowly brown above. The anterior tarsi are brownish apically and posterolaterally, with nearly blackish pile on this side, and there is a trace of brown distally on the mid tibiae.

Wings pale brownish hyaline, the anterior border brown except the costal cell, the stigmal cell also yellowish. The middles of these cells are a little fainter. The subapical cross vein is bent outwardly, beginning in the middle, and has a short, inwardly directed spur. The venation is typical of a true *Mixogaster*.

Abdomen unusually petiolate, the first segment dark brown and long, flat, golden pilose, appressed except on the corners where it is erect. The base of the second segment has on either side a yellow, elongate, translucent, red-margined spot barely connected basally in the middle, and separated from the emarginate sides by brown. The remainder of the segment, the expanded portion, is very dark brown and black pilose, except for the rather wide, straight, posterior border with its flat, golden pile; the black pile is appressed. The apex of the second segment is at least three times as wide as the narrowest portion of the second segment which lies at the base. Fourth, fifth, and sixth segments forming a very convex, subcylindrical club, widest at the end of the third segment and with chiefly appressed, reddish to yellow pile.

HOLOTYPE: Female; Nova Teutonia, Brazil (Fritz Plaumann); in the American Museum of Natural History.

Mixogaster cicatrix, new species

Distinguished by the three red stripes of the face, wholly dark brown mesonotal disc, except for the lateral margins and humeri, and the yellow

lateral margins of the second abdominal segment. Related to *conopsoides* Macquart. Length, 15 mm., including 2 mm. of antennae and 4 mm. of the reflexed portion of the abdomen.

MALE: Occiput and the vertex beginning just in front of the ocelli, dark reddish brown with a small yellow area behind the ocelli, the interocellar area black. The upper occipital pile is pale yellowish, black between the ocelli and the eye margins; the ocellarium is bare. The ocelli are placed in an obtuse triangle, the anterior ocellus is clearly divided into two, with a space between. The upper two-thirds of the front is similarly brown with black sparse pile; this leaves a prominent, transverse, light yellow band from eye to eye across the more concave portion of the front; it is without pile. The face is pale yellow, with three reddish brown stripes, the medial one distinct, the upper middle portion of the lateral stripe evanescent. The lateral stripe is expanded below, though with irregular and spotty margins, to where all three are fused together and expand posteriorly to cover the cheeks. The profile of the face is gently rounded, retreating, a little more rapidly retreating near the epistoma. The pile is entirely white and long, particularly so on the lower half of the face. The middle red stripe is bare; the lateral fourth of the face on either side bears silvery pubescence that does not obscure the ground color. The first segment of the antennae is as long as second and third and unusually slender and shining black. The second and third segments are brownish black; the arista is short, unusually thickened basally, light yellow; the sensory pore is basal.

Thorax dark sepia-brown, moderately shining, the pleura lighter and more reddish. The humeri, a broad, lateral, mesonotal stripe, the postcalli, all of the scutellum except the extreme ventral corners and the narrow diffuse basal margin are all pale yellow. The basal brown portion of the scutellum has short golden pile; the remainder of the scutellum is bare. The scutellum is unusually arched in section, and there is a deep crease basally. There is a large, yellow spot on the upper part of the sternopleura connected with a small one on the lower portion of the mesopleura. Pile of mesonotum flat appressed, light reddish brown. The metanotum is well developed but wholly dark brown. The abdomen is of the typical petiolate type, the first and second segments shining brownish red, laterally emarginate, the emarginate portion of the posterior border of the second segment yellow. The pile is brown, becoming yellowish laterally and posteriorly and everywhere appressed except for the erect, sparse, long, white pile on the first segment. The third and fourth segments and the large, unusually protuberant, yellowish to light brown hypopygium is formed into a downturned club; the segments are, how-

ever, distinct. Third and fourth segments brown, their posterior margins rather broadly yellow, the pile appressed and golden.

All of the femora and the narrow apices of the tibiae light brown; remainder of tibiae pale yellow, diffusely merging into the brown portions. Tarsi light brown.

Wings pale brown, the anterior margin with the veins narrowly margined in brown. The subapical cross vein is biangular, the basal angle turned in. The upper angle is pointed outward, each angle with a short spur.

HOLOTYPE: Male; Corumba, Brazil; May; one male paratype, same data. The holotype is in the collection of Cornell University; the paratype is in the collection of the author.

Mixogaster rarior Shannon

Mixogaster rarior SHANNON, 1925, Proc. Ent. Soc. Washington, vol. 27, p. 111.

This is a slender species with quite petiolate abdomen. The subapical cross vein is twice angulated with a spur emitted at each angle. Length, 9-10 mm., excluding the antennae which are about 1.5 mm.

MALE: The vertex is convex, dark shining brownish black with a rectangular, diffuse, yellowish spot in the middle of the occipital margin of the vertex. Anteriorly the yellow merges into reddish brown and proceeds as far as the ocelli. The pile of the vertex is pale yellow, with a few black hairs on either side of the ocelli. The front is deeply constricted across the middle, brown below and reddish yellow above the constriction. The yellow color forms a complete band reaching each eye margin and with straight transverse margins. The brown color on the lower part of the front extends a very short way below the antennae along the eye margin. The face is light yellow. In the middle of the face there is a large, shining, brownish black, oval spot lying close to the antennae and situated on a slight bulging convexity. There is a faint trace of a slender brown vitta which runs from the lower border of the facial spot down to the oral margin. Cheeks brown; facial pile yellowish white. The antennae are very dark brownish black; the first segment is about as long as the remaining two, the second segment is not quite half as long as the first. The first two segments appear black when viewed from above and are black setate.

The mesonotum is widely sepia-brown down the middle, with the lateral margins, humeri, a medial encircling band around the humeri, postcalli, and the whole scutellum except each lower lateral corner pale yellow. The mesonotal pile is light golden throughout and quite appressed. Scutellar pile also golden. The pleura are light reddish brown,

with the posterior half of the mesopleura and a large confluent rounded spot on the upper part of the sternopleura and a still larger rounded yellow spot occupying nearly the whole of the metapleura pale yellow. The metanotum is brown and sloping backward. Squamae brown, with dark brown fringe. Halteres orange.

The legs are light sepia-brown in color, with the basal half of the middle and posterior tibiae pale yellow and almost white. The anterior tibiae are wholly brown.

Wings uniformly dark brown on the anterior margin in front of the third vein, but with the costal cell somewhat lighter. The subapical cross vein is bent twice and at each angle emits two short spurs.

The abdomen is slender and quite petiolate and dark sepia-brown. The first and second segments are about as long as the remaining two; the second and third segments have wide, posterior, marginal yellow fasciae; and there is a narrow, post marginal fascia upon the fourth segment of the male. The second segment with its fused first segment is equally wide posteriorly and anteriorly. These segments are distinctly reddish brown, becoming diffusely yellowish on the curved-under lateral margins of the middle portion of the two segments. The middle of these two fused segments is little more than one-third as wide as base or apex. Pile on the sides of the first segment long and yellowish white. Pile on the posterior portion of the second segment and the dark portion of the third segment dark brown in color, the remaining pile of the abdomen pale yellow. Pile of the reddish hypopygium short, dense, and reddish brown.

This species is known only from Panama.

Mixogaster breviventris Kahl

Mixogaster breviventris KAHL, 1897, Kansas Univ. Quart., vol. 6, p. 137.

This species is characterized by the gently convex yellow face, with the medial brown stripe and brown cheeks. The subapical cross vein is straight, and its outer angle with the third vein is less than a right angle. The lower cross vein is convexly bowed inward. Length, 9-10 mm. excluding the antennae which are about 2.5 mm.

FEMALE: The front is wide and shining black and is crossed by a yellow transverse band on the upper part of the front. This yellow band is quite narrow as it passes in front of the ocelli and widens upwardly as it approaches the eye margins on the vertex. Remainder of vertex shining blackish and a little convex. Pile of vertex yellowish but black on the yellow areas of the front and vertex and black on the black lower part of the front. This black area of the front is longitudinally striate on

either side and also deeply punctate. Where black and yellow areas meet there are narrow, linear margins of dark brown. The face is light yellowish brown or clay-colored, with the cheeks brown, and the brown of the cheeks extending forward on the lower portion of the face as a large brown area with the anterior margin rounded. The yellow of the face, however, extends to the oral margin, and the face has a slender, dark reddish sepia vitta down the middle which lies within a wider, slenderly oval, lighter brown vitta. The antennae are elongate, and the third segment is subcylindrical, slightly narrower in the middle, yellowish basally. This segment is fully twice as long as the first antennal segment. First two segments and the base of the third segment light brown.

Mesonotum is shining black with very short, appressed, black pile; the humeri and the posterior part of the lateral margin, postcalli, and scutellum are pale yellow. The mesopleura are widely pale yellow but brown in front, and this yellow stripe merges with a round yellow spot on upper part of the sternopleura. There is a yellow spot on the lower part of the pteropleura, widely connected with a still larger spot occupying most of the metapleura.

Legs yellow to yellowish brown.

The anterior margin of the wings has the veins narrowly margined on each side with brown, leaving the central portion of the cell gray from the presence of the villi.

The abdomen of this species is only moderately constricted, is sepia-brown to black, with conspicuous, yellow, posterior margins on all of the abdominal segments except the first and with a large yellow spot on the side of the first segment.

Described from Kansas and recorded from New Jersey and Connecticut.

Mixogaster johnsoni Hull

Mixogaster johnsoni HULL, 1941, Ent. News, vol. 52, p. 162.

This species is related to *breviventris* Kahl, but the antennae are lighter; the yellow, lateral, thoracic stripe is interrupted, and the pattern of the abdominal spots differs. Length 10 mm., exclusive of antennae.

Face pale yellow, the cheeks and a median stripe dark brown. Front and vertex dark blackish brown. A pale yellow spot on the eye margins opposite the ocelli and the transverse black band in front of antennae pitted. Antennae black, the base of the third segment narrowly orange, and the first two segments dark brown.

Mesonotum dully shining black, humeri, a small spot just before and behind the suture, postcalli, all of the scutellum except the posterior cor-

riens, a prominent vertical stripe on mesopleura, sternopleura, and almost the whole of the metapleura pale yellow. A large red spot on the middle of the pteropleura confluent with the metapleural yellow spot. Mesonotum black.

Legs chiefly light reddish brown, the basal two-thirds or less of the hind tibiae or more of the middle tibiae, the apex of the middle femora, front femora, and basal half of the front tibiae pale yellow. Tarsi brownish but light in color.

Wings hyaline, appearing gray from dense gray villi. The veins very narrowly and inconspicuously margined with brown without definite anterior brown borders.

Abdomen black, with slender post marginal yellow borders that expand a little in the posterior corners. First segment almost wholly black, the anterior corners of the second segment obscurely and diffusely yellowish, merging into red and then into black.

The type of this species was from Dennisport, Massachusetts. It has also been recorded from Lucaston, New Jersey; Wallingford, Connecticut; and Nantucket, Massachusetts.

Mixogaster cubensis Curran

Mixogaster cubensis CURRAN, 1932, Amer. Mus. Novitates, no. 519, p. 1.

This species is related to *breviventris* Kahl, but is quite distinct in its bright reddish brown coloration. Length 12 mm., excluding the antennae which are at least 3 mm.

MALE: Front and upper part of vertex and upper part of occiput light yellow except that there is a large, round, dark brown spot in the middle of the vertex enclosing the ocelli and the area behind. The front ocellus is not divided. There is a longitudinal, raised, brownish ridge near the eye margin on either side of the lower half of the front, and this ridge is part of a brown band running from eye to eye in front of the antennae which is thick, black, setate pilose. The vertical pile is fine and black on the dark spot and yellowish laterally. The face is bright yellow with a slender, brown, medial stripe which is reddish on the upper half. The face is almost straight in profile, curving a little just before the epistoma. The antennae are elongate, and the third segment is especially long, being at least three times as long as the first segment. It is similar in its general arrangement to *breviventris* Kahl, in the fact that the third segment is bulbous basally and again swollen apically, leaving the middle of the segment more slender. The third segment is orange-brown on the basal half, blackish distally. The arista is yellow with basal black spot.

Mesonotum is widely shining black with the lateral margins, humeri,

a band encircling the humeri, postcalli, and scutellum, except for a tiny spot at each corner below, pale yellow. Mesonotal pile is black everywhere except along the anterior margin and is only subappressed. Anterior pile partly golden, scutellar pile golden. The pleura are almost wholly pale yellow on the mesopleura and metapleura with a large confluent spot on the upper sternopleura. Metanotum dark brown. Squamae dark brown, with brown fringe. Halteres yellow.

Legs entirely deep egg-yellow, the coxae and trochanters brownish and the basal half of the tibiae diffusely lighter yellow.

Anterior margin of wings in front of the third vein and in front of the vena spuria on the first basal cell brown, the costal cell slightly more yellowish. Subapical cross vein straight, the remainder of the wing hyaline but with slightly colored villi.

The abdomen is bright reddish brown, with a large yellow fascia on the posterior margin of the second and third segments. The pile of the abdomen is rather long, subappressed, and black on the reddish areas, and yellow on the posterior margins.

This species is known only from Cuba. I have seen the type and have also seen additional specimens from Pico Turquino, Cuba, one of the type localities, which were taken in June at 3000-5000 feet.

Mixogaster flukei, new species

Length, excluding antennae, 10 mm.; antennae approximately 1 mm.

MALE: The front and face are narrower than usual, the occiput is brownish yellow with a brown spot a short distance from the vertex and again brown just at the angle of the eyes above, leaving a short distance behind the ocelli a subquadrate, yellowish spot; the front is black, with in front of the ocelli a transverse yellow fascia; the black portion of the front above and on either side of the antennae is microrugose where the scant pile is omitted. The yellow fascia is bare and smooth. Ocelli situated on an elongate raised protuberance, face brownish yellow, with a medial dark brown stripe expanded into a large, round, blackish spot immediately beneath the antennae. Pile of face sparse, yellow. Profile of face barely concave on the upper third, leaving the lower part of the face low and convex. Antennae shorter than in any other known species. First and third segments about equal, each about twice as long as the second segment. First segment black, the others dark brown. The short arista light brown. Pile of front and vertex black.

The mesonotum is dark brown with a slight bronze cast; the humeri, a post-notapleural spot, a narrow supra-alar vitta, the postcalli anteriorly and posteriorly, and most of the posterior, ventral margin of the scutel-

lum dirty yellowish. The pleura are chiefly dark brown, with a vague, diffuse, yellowish, broad, metapleural fascia and a similar narrow one on either side of the dark brown metanotum. Pile of mesonotum blackish brown except in the anterior corners and except for a more conspicuous, though narrow, medial stripe of appressed golden pile. Squamae very short, yellowish with brown margins and yellowish microscopic fringe.

Front and middle femora yellowish brown anteriorly, dark brown posteriorly except along the dorsolateral area basally. Hind femora dark brown except near the apex and base laterally. Front and middle tibiae yellow, with a brown middle spot on the posterior surface. Hind tibiae and all of the tarsi brownish yellow.

Entire anterior margin of wings in front of the third longitudinal vein and in front of the vena spuria in the first basal cell brown. The costal cell and the marginal cell more yellowish brown. The posterior portion of the first basal behind the vena spuria is mostly brown. The subapical cross vein has a slight bend near its end, but no spur. It joins the third vein almost rectangularly. On one wing the basal three-fourths of the subapical cross vein is absent completely. The postical cross vein is slightly recurrent.

Abdomen dark sepia-brown, the posterior margin of the second segment and of the third segment narrowly yellow on the third and the yellow expanded somewhat laterally. Fourth segment more narrowly yellowish and again wider in the posterior corners. The abdomen is strongly petiolate, and the fused first and second segments are of approximately the same length as the remaining two. The second segment is more abruptly constricted posteriorly than in other species, and these first two segments are somewhat more narrow in relation to the remaining segments.

HOLOTYPE: Male; São Paulo, Brazil; August 9, 1939 (M. das Cruses, M. Carrera); in the collection of C. L. Fluke.

Mixogaster strictor Hull

Mixogaster strictor HULL, 1941, Amer. Mus. Novitates, no. 1151, p. 1.

Large, petiolate, brown species without obvious mesonotal vittae or fasciae; wings with a brown anterior border and subapical cross vein with an outwardly directed spur beginning above the middle of the cross vein. Related to the *conopsooides* Macquart group but with different thorax. Length, 9 mm. to where the abdomen is deflected downward at the end of second segment, remaining three segments 4 mm. long. Wing, 9 mm.

MALE: Head considerably wider than thorax, the occiput dark brown. There is a very dark brown transverse band across the front from eye

to eye, which is confluent with a similar area on the upper edge of the antennal prominence and on all the region of the vertex and ocellar triangle except the area just behind the ocelli. Just behind the ocelli the rounded swollen area is dark reddish. There is a narrow transverse band from eye to eye on the upper part of the front, just below the ocellar triangle, which is light brownish yellow and slightly reddish. Face very convex viewed from above, straight in profile for the greater part of its length or height and receding gently on the lower third. Cheeks absent in profile. Face light yellow-brown, with a slender median brown stripe and a more slender, slightly curved stripe on the middle of each side of the face that grows wider as it reaches the epistoma. All three stripes proceed from the base of the antennae, and the outer stripes are curved outwardly, convex. Eyes bare, widely separated by four-fifths of the eye width. Antennae elongate, the first segment nearly as long as the other two, the second segment two-fifths as long as the third segment and very narrow at its base, from which it quickly flares out over its short length. Arista much thickened basally, not so long as the third segment.

Thorax convex, a little longer than wide, the dorsum entirely dark, dull shining brown, with extremely short-appressed, reddish, bristly pile, and without obvious stripe on the dorsum anywhere. The narrow sides of the thorax from and including the humeri, the postcalli, and the entire scutellum light yellow. Scutellum very short and convex. Metanotum conspicuous and brown.

Legs dark brown, the basal two-thirds of all of the femora light brownish yellow.

Wings with the anterior border very pale gray and perhaps teneral, though there is no indication of it elsewhere. Veins brown, wings villose, stigmal cell pale. A stigmal cross vein is present; the spurious vein is a mere fold.

Abdomen elongate and pedunculate, the second segment narrowest at about a fourth of the distance from its base. The length of the second segment is about three and a half to four times its narrowest width, and on its posterior margin it is at least one and a half times as wide as the narrowest width. The remainder of the abdomen, consisting of the third and fourth segments and conspicuous hypopygium, are enlarged into a club-shaped body which is thrust downward at a right angle. First and second segments light reddish brown, shining, a little bit darker on the first segment and on either side of the second segment past the middle. The margins of the second segment are deeply creased, and the extreme tip of this segment is almost yellow. The remaining segments are dark

brown, quite densely appressed setate, the hind border of the third segment and a narrower border on the posterior part of the fourth segment brownish yellow.

This species was described from Piedra, Brazil, and was collected in April. It formed part of the old Williston collection.

Mixogaster delongi Johnson

Mixogaster delongi JOHNSON, 1925, *Psyche*, vol. 32, p. 301.

This species is light brown, with brown wings in which there is a distinctive, yellowish, longitudinal bar about the first and second basal cells. Length, 11 mm.

Head red, with a brownish vitta upon the face; the ocelliferous triangle is black, and there are two longitudinal ridges on either side between the antennae and the eye margins. The antennae are red; the first and second segments are almost as long as the spatulate third segment which is nearly twice as wide apically as basally. The yellow arista has a black base.

The mesonotum is black centrally with two slender brown vittae joining a brown spot before the scutellum; the lateral margins and a central spot on the pleura and a small, yellow spot on the transverse suture and the scutellum yellowish. The sternum, metanotum, and a spot on the pleura are black.

Legs red, the tibia yellow basally.

Wings are brown. There is a clear, distinct, yellowish longitudinal bar occupying the first and second basal cells; the costal cell is also yellowish and except for these areas the brown more or less uniformly covers the entire wing.

Abdomen with first segment yellow, second red with posterior yellow margin, the next two segments brownish black with reddish to yellow posterior margins.

This species is known only from Florida. It has been collected at Paradise Key, April 6, and Dunedin, March 22.

Mixogaster conopsooides Macquart

Mixogaster conopsooides MACQUART, 1842, *Diptera exotica*, vol. 2, pt. 2, p. 14.

This species, as illustrated by Macquart, clearly possesses a bright, complete, yellow, medial stripe down the mesonotal disc, with the sides broadly yellow; the lateral margins, including humeri and postcalli, give the thorax its distinctive trivittate appearance. Williston believed that the material he studied from Brazil represented Macquart's species. However, I have seen specimens from Corumba, Brazil, apparently part of this

material, which do not seem to answer the description of Macquart. If this is true this species, the genotype, has not been recognized since its description. The present studies show that there are numerous species closely allied to *conopsooides* and forming a natural species group. I have not recognized the genotype among any material I have studied. The next most distinct species group is that of *breviventris* Kahl. The species *ravior* Shannon, and *flukei*, new species, are rather different from either of these groups. The following is a translation of Macquart's brief description of *conopsooides*. "Length, 5.5 lines.

FEMALE: Face yellow, with a few whitish hairs; there is a longitudinal black band, narrowing below and not reaching the epistoma. Front black; a transverse, yellow band on the border or excavated portion of the front; there is a little yellow square spot at the vertex. Antennae black.

Thorax black; a small, yellowish brown stripe longitudinally, at each side, and a dorsal, yellowish brown stripe. Scutellum brown.

Legs yellowish brown, femora a little brownish; the tibia has the posterior half of the interior side brownish.

Wings a little yellowish; exterior border brownish limited by the brown border of the first longitudinal vein; the first posterior cell has two little appendixes at the posterior border and one appendix on the interior border.

Abdomen black, second segment at the base brown and posteriorly bordered with yellow as are also the lateral borders; third segment with posterior yellow border; a little yellow on the posterior border of the fourth."

This species is known from Rio de Janeiro.

Mixogaster dimidiata Giglio-Tos

Mixogaster dimidiata GIGLIO-TOS, 1892, Boll. Mus. Zool. Anat. Comp. R. Univ. Torino, vol. 7, p. 1.

"**FEMALE:** Face equally wide, black, almost vertical, with an arcuate, transverse impression a little above the epistoma; there are two yellow lateral stripes proceeding from the sides at the base of the antennae curved externally, which run along the internal margin of the eyes and, thence converging, extend to the margin of the epistoma. Front equally broad as the face, black, with a yellow transverse stripe between the anterior tubercle and the ocelli; somewhat wider at the sides. There is another shorter one, also yellow, on the posterior margin of the head. Antennae dark ferruginous; third segment obtuse and black, arista short. Proportions of the segments 1:1/2:2/3. Eyes fairly large, bare.

Thorax quadrangular; anterior and posterior angles yellow, joined

with a dark, yellow, supra-alar stripe, its sides with an almost vertical, per-alar, yellow stripe; on the pleuron three more or less rounded spots, more pale, and placed towards the arc, the anterior of which is adjacent to the lower extremity of the pre-alar stripe. Scutellum with the basal half ferruginous, the apex yellow. Mesonotum blackish ferruginous.

Legs brownish yellow, the basal half of the middle and posterior tibia and pulvilli pale yellow, in the posterior legs, the femora, the tibiae at the extremity, and the tarsi at their base are enlarged and ferruginous.

Wings of a brownish yellow color, on their anterior margin limited posteriorly by the spur vein up to the anterior cross vein, and limited further by, the third longitudinal vein. Halteres yellow; a little black point on the head.

Abdomen black ferruginous, claviform, covered with scant, short, whitish hair. First segment yellow, very short above; second longer than all, constricted a little before the middle and here with two yellowish lateral spots; the posterior margin is sharply yellow, with long whitish lateral pile towards the base. The other segments, however, are bordered with yellow posteriorly, the third a little more widely. Venter very concave, of the same markings as the abdomen, except that the second segment is completely yellow with two little ferruginous spots lying close together in the middle.

Length, 11 mm. ; of wing, 10 mm. From Tuxpango, Mexico." (Translation from original description.) This species is illustrated by Giglio-Tos (1892, Ditteri del Messico, pl. 1, figs. 9, 9a).

The author has not seen this species, and there have been no further records of it.

Mixogaster mexicanus Macquart

Mixogaster mexicanus MACQUART, 1846, Diptera exotica, suppl. 1, p. 123.

"Length, 5.5 lines. Related to *Mixogaster conopsoides*.

FEMALE: Face yellow, without black band. Front yellow, a black spot at the insertion of the antennae and a little black protuberance at the middle. Antennae testaceous.

The thorax has sparse, yellowish brown pile and is without a dorsal stripe. Scutellum reddish to yellowish brown.

Wings a little yellowish; exterior border brownish; the first posterior cell has four appendixes.

From Mexico." (Translation from original description.)

There have been no further records of this species since its original description.

Mixogaster anthermus Walker

Baccha anthermus WALKER, 1849, List of the . . . dipterous insects in the . . . British Museum, pt. 3, p. 547.

Although this species was originally described in the genus *Baccha*, it is a true *Mixogaster*, though somewhat distinctive in the strongly convex third longitudinal vein and further characterized by the pallid, yellowish brown coloration. There is at least another closely related species involved, for the author compared a Brazilian specimen from the Vienna museum and another specimen from the Museum of Comparative Zoölogy with the type of Walker's species and found the Vienna specimen to be identical with *anthermus*. The other species, a female from Bartica, British Guiana, was found to be closely related but distinct. The species from Bartica has since been given the name *orpheus* by the author. The Vienna specimen of *anthermus* is from Brazil, whence also came Walker's type. No further locality data are available. Moreover it should be added that the area of the wing just above the origin of the second longitudinal vein and its petiole (radial sector) is entirely filled out with brown in *anthermus* but is clear in *orpheus*.

Anthermus Walker and *orpheus* Hull form a group of two closely allied species, each of which possesses the very convex third vein and each has the general pallid coloration.

The type of *anthermus*, in the British Museum (Natural History), was carefully examined by the author. A second specimen of *anthermus*, also from Brazil, was discovered by the author while visiting the Vienna museum. An opportunity was afforded for comparing it later with the type of Walker's species. *Anthermus* will be readily distinguished by the wide, dark, sublateral vitta of the mesonotum which is interrupted at the suture, together with the fact that the transverse fascia across the vertex is complete; moreover the dark border near the apex of the wing is narrow. In *orpheus* Hull the dark border (which is, however, but little darker than the hyaline portion of the wing) fills out the submarginal cell as far back as the confluence of the subapical cross vein.

Mixogaster orpheus Hull

Mixogaster orpheus HULL, 1944, Psyche, vol. 51, p. 36.

Closely related to *anthermus* Walker but with minor differences in the wing venation. Length, 12 mm. excluding antennae; wings, 12 mm.

FEMALE: Vertex, except immediately around the ocelli, occiput except for a diagonal stripe from the corner of the eyes, and front except for

a transverse band across in front of the antennae including the short antennal prominence and a conspicuous round spot just beneath the antennae, everywhere light brownish yellow; the exceptions noted are brown, or at least brownish, and there is a large, transverse spot above the antennae, including the short but black antennal prominence which is reddish brown and is widely separated from the eye margins. Antennae light brown; second segment half as long as first, third segment missing; antennal pile dark brown; extreme base of first segment with a black annulus. Face rather conspicuously concave just above the middle with very sparse pale pile. Eyes bare.

Thorax chiefly light brownish yellow, with a short pair of submedial, slender, brown stripes that are almost fused with a much wider pair of stripes that lie on either side of thorax, run throughout its length, slightly converge posteriorly, and the anterior lateral ends of which fill out the entire corners of the thorax behind the humeri, leaving, however, a large yellow spot before the suture. Pleura wholly pale, shining yellow, almost bare, with a single diagonal reddish stripe from base of wing down to hind coxae and a brown stripe behind the metapleura. Scutellum broadly brown across the disc, the base and the posterior margin yellow; somewhat triangular in shape, with rounded apex. Metanotum yellow; humeri yellow; squamae yellow, with a brown margin and fringe; halteres brownish yellow.

Legs wholly light yellow, the apical two-thirds of the hind femora a little darker; pile of legs wholly yellow.

Wings large and long, longer than abdomen, faintly brownish yellow along anterior half, with stigmal cross vein, very short anterior cross vein, and with a practically straight subapical cross vein that joins the third vein approximately at a right angle; posterior corners of the first and second posterior cells with well-developed spurs.

Abdomen elongate, quite petiolate; the first and second segments are subcylindrical, fused, narrowest in the middle, and not quite so long as the remaining three segments. There is a reddish stripe running from the base of the second segment diagonally down the long second segment to meet the opposite stripe in the middle a short way from the end of the segment; elsewhere the first two segments are shining yellow. The remainder of abdomen is light brown, the posterior third of the third segment uniformly light yellow; pile of abdomen everywhere pale.

Described from one female, Bartica, British Guiana, August 19, 1901, from the collection of C. W. Johnson, now in the Museum of Comparative Zoölogy.

Mixogaster pithecofascia Hull

Mixogaster pithecofascia HULL, 1943, Rev. Ent., vol. 14, p. 512.

Mesonotum with three yellowish vittae, the pile of the disc black but golden down the middle; subapical cross vein with an inward spur near the middle. Related to *conopsooides* Macquart. Length, 12 mm., excluding 2 mm. of antennae.

MALE: Occiput along the eye margins together with a round spot above and behind is brownish orange. There is a curved, rather wide semicircle of black enclosing the ocelli; the ocellarium is elongate and polished black, with a longitudinal groove. The front is shining, granulate black, with a wide, transverse, yellow fascia on the upper part of the front which is wide and bare. The pile of the front is sparse, appressed, black, and directed forward. There is an indistinct yellow wedge in front of the antennae in the middle. The cheeks and the gently convex face, which slightly widens below, is everywhere light, clear yellow except that there are three tiny, elongate, brownish spots just under the antennae, arranged as a triad. The pile of the face is long, sparse, and golden. The antennae are elongate, black, the third segment very dark brown, the last two segments as long as the first, the arista short, thickened, and yellowish.

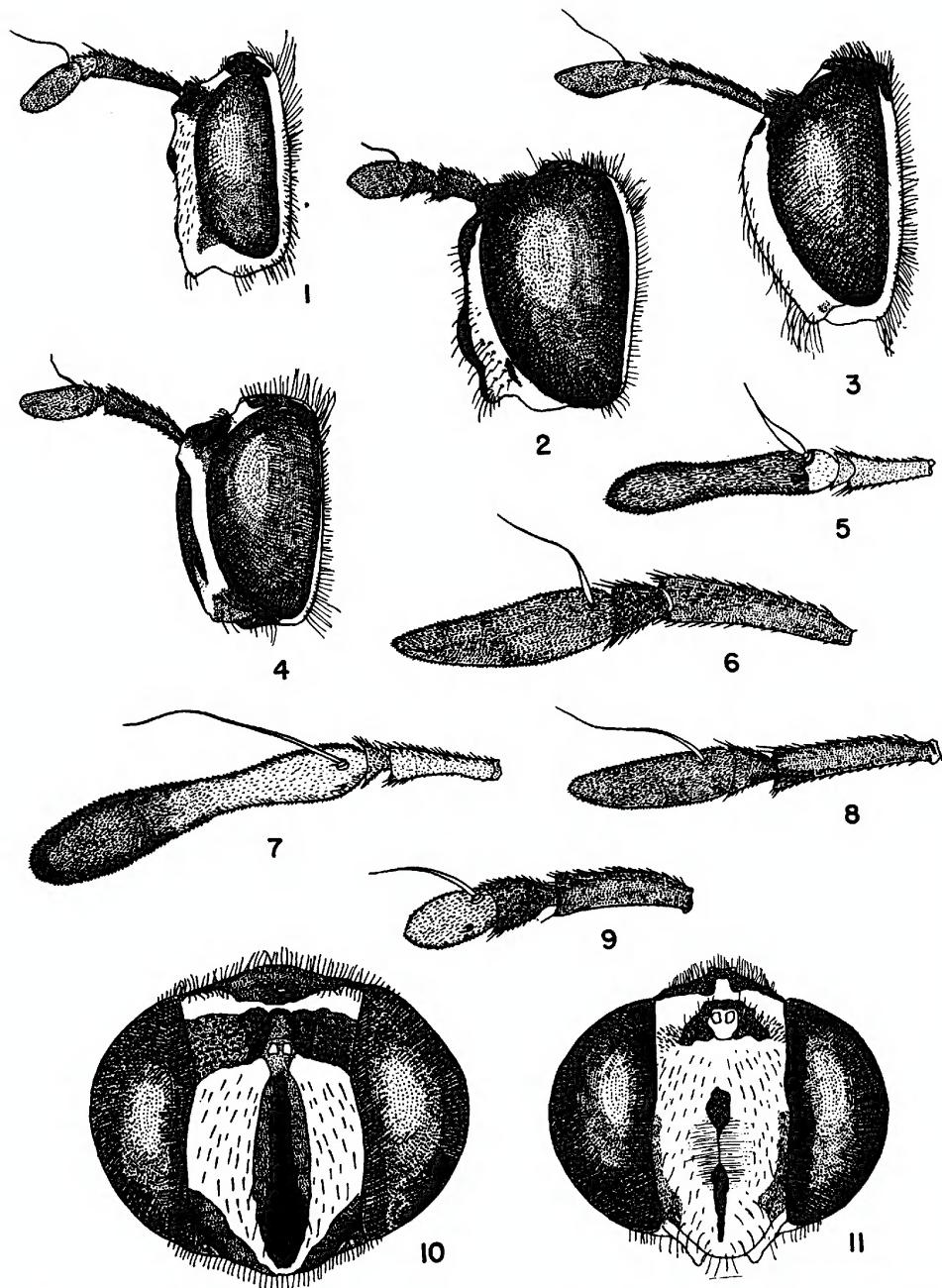
Thorax brownish yellow, the disc black, with an indistinct, yellow, medial stripe that is golden pilose; the lateral margins of the thorax are yellow and connect anteriorly and diagonally with a large yellow spot lying on the inside of the yellow humeri. This leaves the corners behind the humeri widely brownish black. The humeri connect diagonally with a large, polished, bare, yellow spot in the middle of the mesopleura. There is a large yellow spot on the upper part of the sternopleura, and all of the pteropleura except a middle stripe and a posterior brown spot, all of the upper half of the hypopleura, and almost all of the metapleura are yellow. The postcalli base, the apical third of the scutellum, and the dorsal half of the metanotum except for a narrow basal border are all light yellow. The metanotum is well developed and slanting at an angle of about 45 degrees.

First four legs and the hind tibiae light yellow. The hind femora are yellowish basally, light brown apically, their tarsi light brown. All of the pile is either golden or light brown.

Wings with brown anterior border, the middles of the cells paler; subapical cross vein strongly and sharply bent outward for considerable distance near its middle and at this point with an inward spur; apex of cross vein recurved backward.

Abdomen petiolate, dark sepia-brown, almost black, the lateral margins of the unusually long second segment and its posterior margins yellowish. The pile of the second segment is appressed and black, with a few golden hairs on the posterior yellow margin. Third segment has a conspicuous, posterior, yellow margin with chiefly flat, golden pile; the rest of the segmental pile is black. The fourth segment is considerably longer than the third and with it forms a convex club; its pile is appressed and black, its posterior margin narrowly brown.

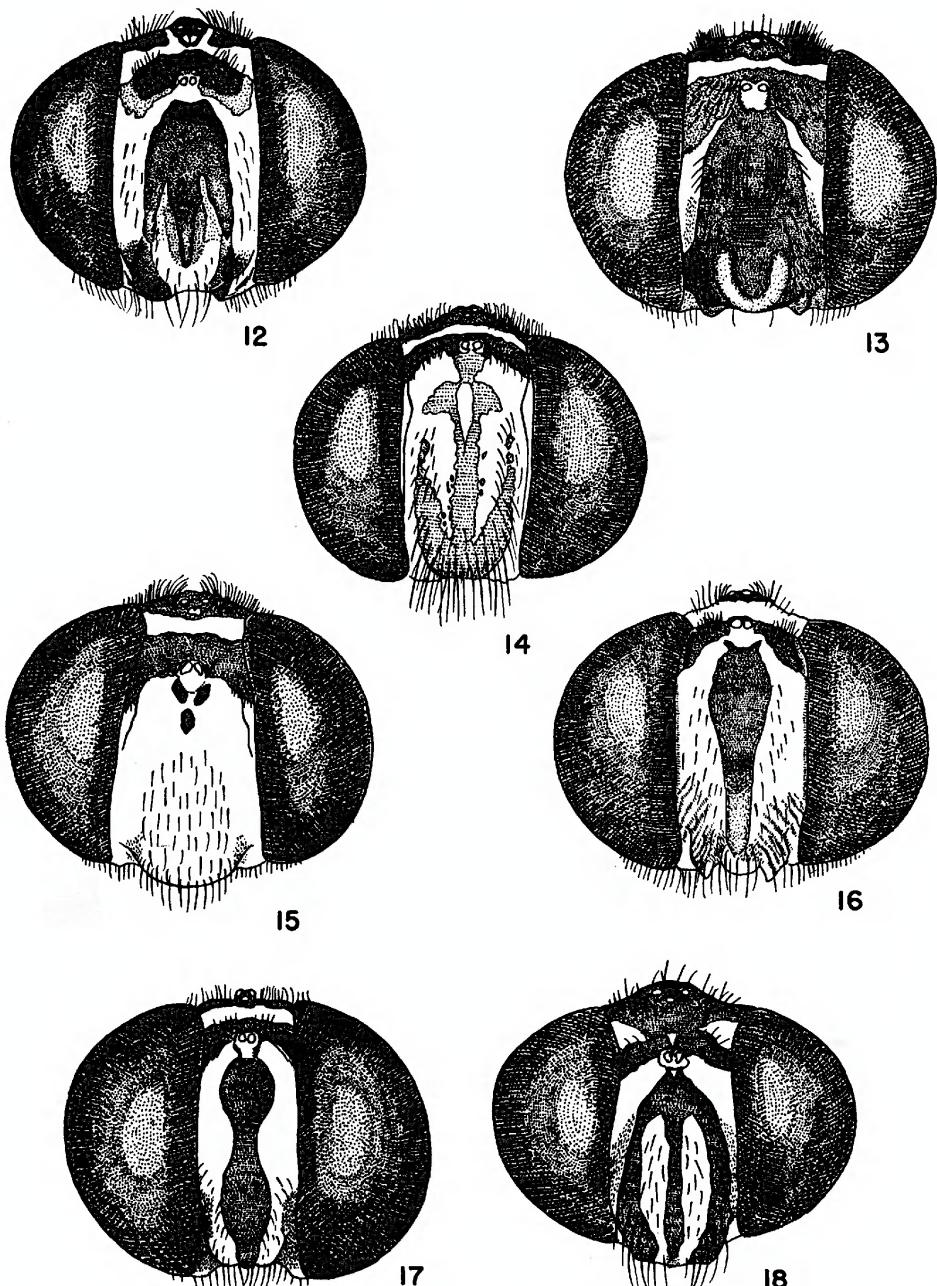
This species is known only from Colombia.



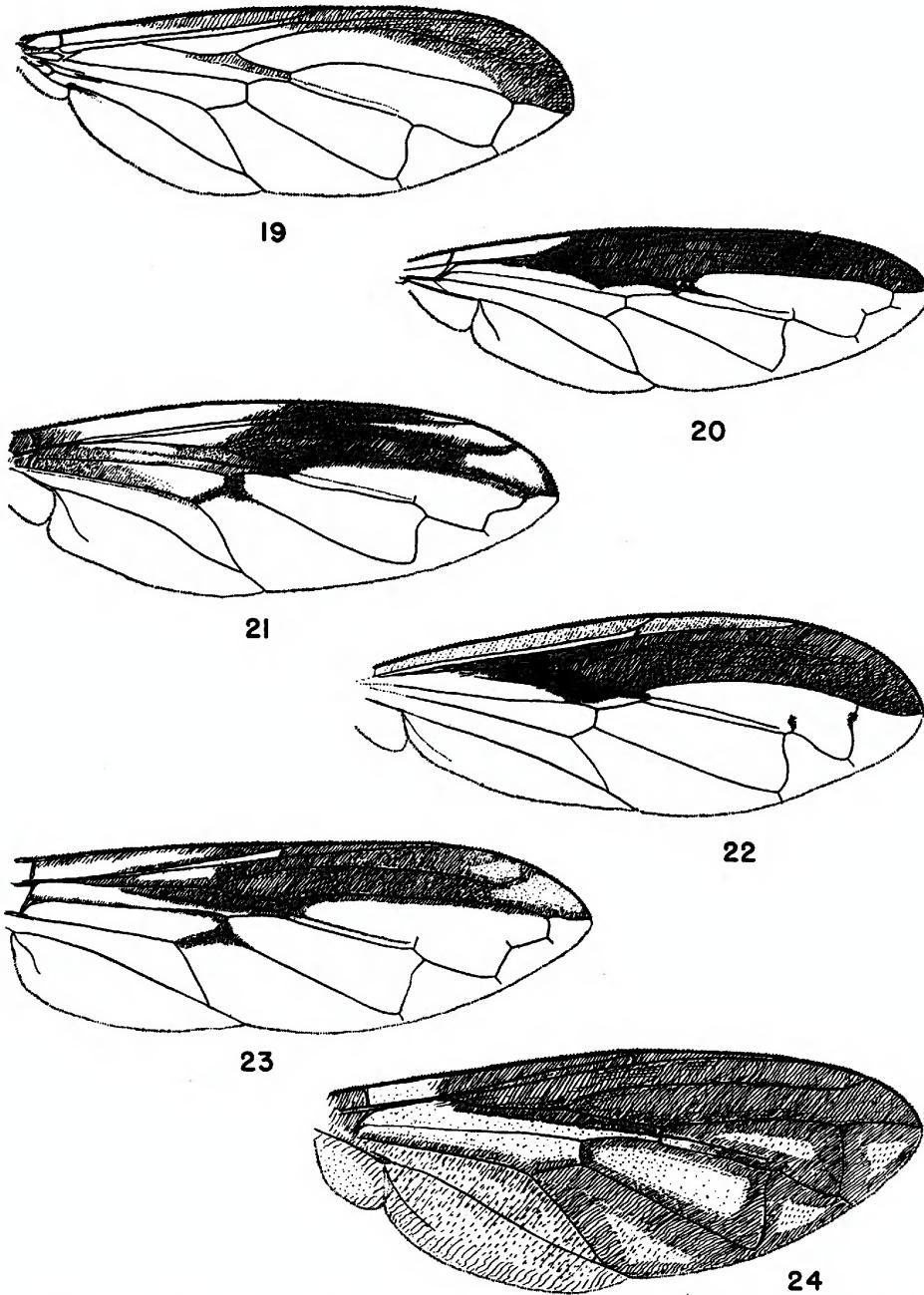
FIGS. 1-4. Profiles of face. 1. *Mixogaster sartocryptus*, new species, female. 2. *M. flukei*, new species, male. 3. *M. pithecofascia* Hull, male, type. 4. *M. polistes*, new species, female.

FIGS. 5-9. Antennae. 5. *Mixogaster breviventris* Kahl, female. 6. *M. sartocryptus*, new species, female. 7. *M. cubensis* Curran, male. 8. *M. polistes*, new species. 9. *M. currani*, new species, male.

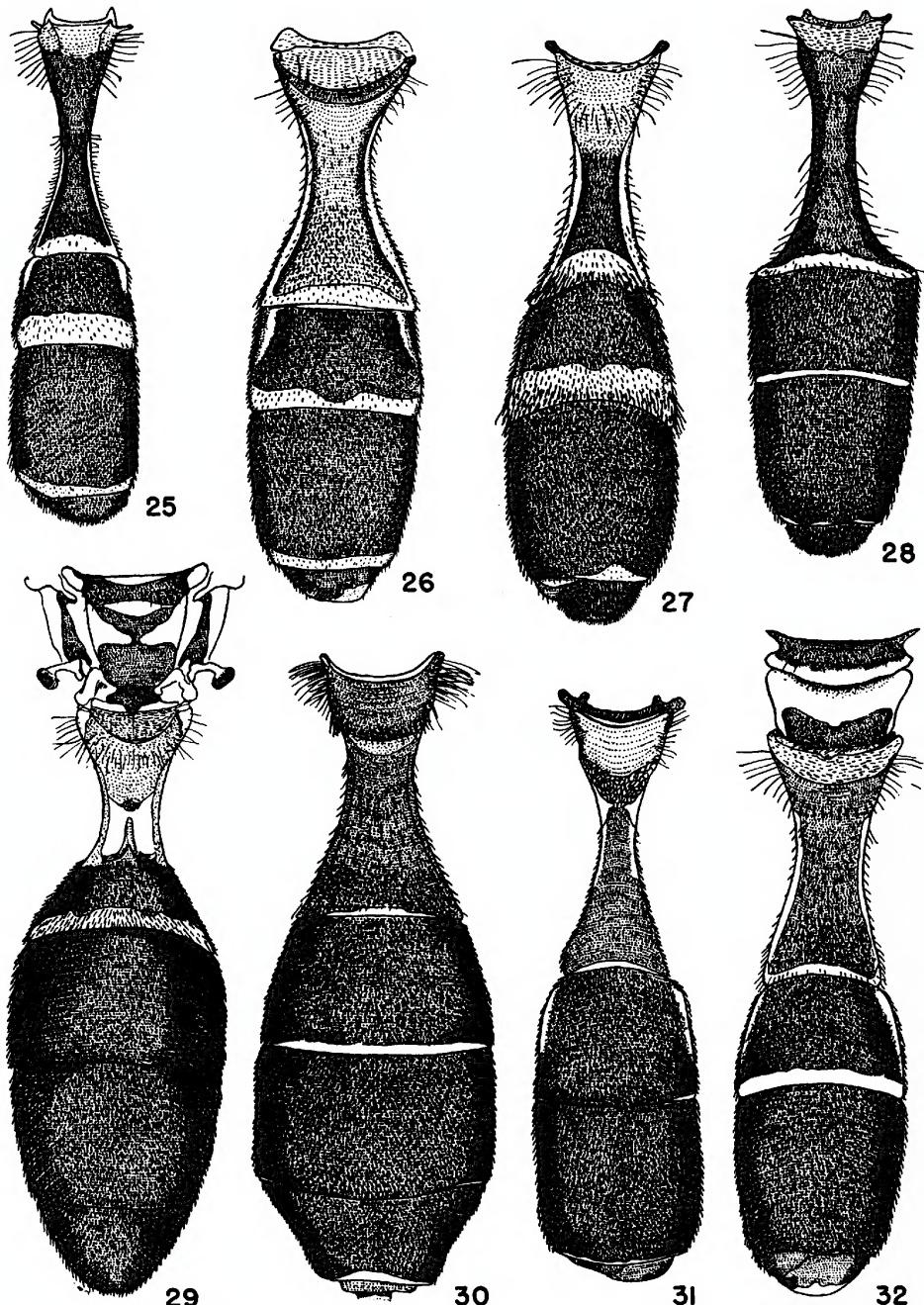
FIGS 10, 11. Fronts of face. 10. *Mixogaster breviventris* Kahl, female. 11. *M. sartocryptus*, new species, female.



Figs. 12-18. Fronts of face. 12. *Mixogaster polistes*, new species, female. 13. *M. thecla*, new species, male. 14. *M. cicatrix* Hull, male, paratype. 15. *M. pithecofascia* Hull, male. 16. *M. currani*, new species, male. 17. *M. flukei*, new species, male. 18. *M. strictor* Hull, male, type.



FIGS. 19-24. Wings. 19. *Mixogaster orpheus* Hull, type. 20. *M. rario* Shannon. 21. *M. polistes*, new species. 22. *M. flukei*, new species. 23. *M. thecla*, new species. 24. *M. delongi* Johnson, type.



Figs. 25-32. Abdomens. 25. *Mixogaster rario* Shannon, male. 26. *M. cicatrix* Hull, male, paratype. 27. *M. cubensis* Curran, male. 28. *M. flukei*, new species, male. 29. *M. sartocryptus*, new species, female. 30. *M. thecla*, new species, female. 31. *M. currani*, new species, male. 32. *M. pithecofascia* Hull, male, type.